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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/789,609	02/27/2004	Timothy E. Snodgrass	03CR254/KE	9039

7590   11/13/2008

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EXAMINER
VERDI, KIMBLEANN C

ART UNIT	PAPER NUMBER
2194	

MAIL DATE	DELIVERY MODE
11/13/2008	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

	Application No.	Applicant(s)
	10/789,609	SNODGRASS, TIMOTHY E.
Office Action Summary	Examiner	Art Unit	
	KimbleAnn Verdi	2194	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE _3_ MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on _13 August 2008_.

2a) ☒ This action is **FINAL**.   2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) _1,4-6,8-12,15,19-21 and 23-29_ is/are pending in the application.

   4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) _1, 4-6, 8-12, 15, 19-21, 23-29_ is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.

   Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

   Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

   a) ☐ All   b) ☐ Some * c) ☐ None of:

   1. ☐ Certified copies of the priority documents have been received.

   2. ☐ Certified copies of the priority documents have been received in Application No. _____.

   3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

   * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.

4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

Claims 1, 4-6, 8-12, 15, 19-21, and 23-29 are pending in the current application.

Claim Rejections - 35 USC § 112

1.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of
> making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the
> art to which it pertains, or with which it is most nearly connected, to make and use the same and shall
> set forth the best mode contemplated by the inventor of carrying out his invention.

2.   Claim 28 is rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which

was not described in the specification in such a way as to reasonably convey to one

skilled in the relevant art that the inventor(s), at the time the application was filed, had

possession of the claimed invention.

3.   Claim 28 the recitation of "a missile" is not disclosed in the specification.

Thorough review of the specification by the Examiner did not result in finding of the

subject matter properly disclosed in the specification.

Claim Rejections - 35 USC § 103

4.   The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set
> forth in section 102 of this title, if the differences between the subject matter sought to be patented and
> the prior art are such that the subject matter as a whole would have been obvious at the time the
> invention was made to a person having ordinary skill in the art to which said subject matter pertains.
> Patentability shall not be negatived by the manner in which the invention was made.

5.   Claims 1, 4-8, 9-12, 15, 19-21 and 23-29 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Bertrand et al. (hereinafter Bertrand) ("CORBA™

Delays in a Software-Defined Radio") in view of Murotake et al. (hereinafter

Murotake) (U.S. Publication No. 2005/0108382 A1) and in further view of Anderson

et al. (hereinafter Anderson) ("Implementation of a WNW within the JTRS

Operating Environment Using Networking APIs").

6.   Bertrand and Anderson cited in previous Office action

7.   As to claim 1, Bertrand teaches the invention substantially as claimed including

an apparatus that implements services for a waveform application, the apparatus

comprising:

        an object request broker (CORBA object request broker, page 153, left col., line

16) that marshals data from the waveform application for communication (page 152,

Fig. 1 and page 155, left col., lines 58-61).

8.   Bertrand does not explicitly teach wherein at least a portion of the object request

broker is implemented in hardware;

        an object request broker interface that communicates the marshaled data using a

memory pool; and

wherein the portion of the object request broker and the portion of the object

request broker interface implemented in hardware comprises a programmable

application specific integrated circuit.

9.   However Murotake teaches wherein at least a portion of the object request

broker is implemented in hardware (paragraphs [0019], lines 7-11; [0050], lines 1-7 and

[0052], lines 1-2); wherein the portion of the object request broker and the portion of the

object request broker interface implemented in hardware comprises a programmable

application specific integrated circuit (paragraphs [0019], lines 7-11 and [0050], lines 1-

7).

10.   It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to have modified the ORB of Bertrand with the teachings of an

ORB implemented in a hardware device from Murotake because this feature would

have provided a mechanism for accelerating the performance of the ORB and reduces

the footprint running in the general purpose processing unit (paragraph [0052], lines 1-4

of Murotake).

11.   Bertrand as modified by Murotake does not explicitly disclose an object request

broker interface that communicates the marshaled data using a memory pool.

12.   However Anderson teaches an object request broker interface (commercial

Object Request Brokers (ORBs), Fig. 6) that communicates the marshaled data using a

memory pool (used pointers to shared memory to address transport delays, transfer

methods supported by ORBs, page 975, right col., lines, 36-48, upgrade to shared

memory approach used in Rockwell Collins Link 16 port to the JTRS SCA under JTRS

Step 2b, left col., lines 29-31).

13.   It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to have further modified the ORB communication mechanism of

Bertrand as modified by Murotake with the teachings of shared memory from Anderson

because this feature would have further provided a mechanism to address the transport

delays of the CORBA™ call copying of data (page 975, right col., lines 36-42 of

Anderson).

14.   As to claim 4, Bertrand teaches wherein the object request broker interface

comprise a pluggable protocol interface (e.g. ease of technology insertion, CORBA™

hides details of the hardware architecture, left col., lines 30-44).

15.   As to claim 5, Bertrand as modified by Murotake and further modified by

Anderson wherein the object request broker interface comprises a custom interface

(part of SCA OE Framework, specified interface for CORBA™, page 972, left col., line

46, right col., lines 1-5 of Anderson).

16.   As to claim 6, Bertrand teaches wherein the object request broker is a common object request broker architecture broker (page 153, left col., line 16).

17.   As to claim 8, Bertrand as modified by Murotake teaches wherein the at least a portion of the object request broker that is implemented in hardware comprises logic and data formatting functions (paragraph [0052], lines 4-6 of Murotake) that are determined to consume excessive processor throughput for a software application (paragraph [0052], lines 1-6 of Murotake).

18.   As to claim 9, Bertrand as modified by Murotake teaches an operating system protocol stack (paragraph [0020], lines 1-7 of Murotake), wherein the operating system protocol stack is implemented in hardware ([0020], lines 7-10 of Murotake).

19.   As to claim 10, this claim is rejected for the same reasons as claim 1, see the rejection to claim 1 above.

20.   As to claim 11, this claim is rejected for the same reasons as claim 8, see the rejection to claim 8 above.

21.   As to claim 12, this claim is rejected for the same reasons as claim 9, see the rejection to claim 9 above.

22.   As to claim 15, Bertrand teaches the invention substantially as claimed including

a system for a joint tactical radio system (JTRS) compliant device that provides

communication at low power requirements, the system comprising:

an object request broker (ORB) (CORBA™ object request broker, page 153, left

col. , line 16) that marshals data from a waveform application (page 152, Fig. 1 and

page 155, left col., lines 58-61);

a pluggable protocol interface (e.g. ease of technology insertion, CORBA™ hides

details of the hardware architecture, left col., lines 30-44) that communicates the

marshaled data from the hardware-implemented ORB (CORBA™ middleware, can

perform a data format translation, converting data to a format appropriate to the

receiving, left col., lines 5-7).

23.   Bertrand does not explicitly teach wherein at least a portion of the object request

broker is implemented in hardware rather than software;

wherein at least a portion of the pluggable protocol interface is implemented in

hardware;

wherein the portion of the pluggable protocol interface and the portion of the

ORB implemented in hardware comprise logic and data formatting functions of the ORB

that are determined to consume excessive processor throughput for a software

application and an interface implemented as a programmable application specific

integrated circuit; and

a memory pool that communicates data from the pluggable protocol interface

directly and without transport overhead.

24.   However Murotake teaches wherein at least a portion of the object request

broker is implemented in hardware rather than software paragraphs [0019], lines 7-11;

[0050], lines 1-7 and [0052], lines 1-2);

wherein at least a portion of the pluggable protocol interface is implemented in

hardware paragraphs [0019], lines 7-11; [0050], lines 1-7 and [0052], lines 1-2);

wherein the portion of the pluggable protocol interface and the portion of the

ORB implemented in hardware comprise logic and data formatting functions of the ORB

(paragraph [0052], lines 4-6) that are determined to consume excessive processor

throughput for a software application (paragraph [0052], lines 1-6) and an interface

implemented as a programmable application specific integrated circuit (paragraphs

[0019], lines 7-11 and [0050], lines 1-7).

25.   It would have been obvious to a person of ordinary skill in the art at the time the

invention was made to have modified the ORB of Bertrand with the teachings of an

ORB implemented in a hardware device from Murotake because this feature would

have provided a mechanism for accelerating the performance of the ORB and reduces

the footprint running in the general purpose processing unit (paragraph [0052], lines 1-4

of Murotake).

26.   Bertrand as modified by Murotake does not explicitly disclose a memory pool that communicates data from the pluggable protocol interface directly and without transport overhead.

27.   However Anderson teaches a memory pool (e.g. shared memory) that communicates data from the pluggable protocol interface directly and without transport overhead (CORBA™ call copying of data used pointers to shared memory to address transport delays, transfer methods supported by ORBs, page 975, right col., lines, 36-48, upgrade to shared memory approach used in Rockwell Collins Link 16 port to the JTRS SCA under JTRS Step 2b, left col., lines 29-31).

28.   It would have been obvious to a person of ordinary skill in the art at the time the invention was made to have further modified the ORB communication mechanism of Bertrand as modified by Murotake with the teachings of shared memory from Anderson because this feature would have further provided a mechanism to address the transport delays of the CORBA™ call copying of data (page 975, right col., lines 36-42 of Anderson).

29.   As to claim 19, Bertrand as modified by Murotake and further modified by Anderson teaches the system of claim 15, wherein the JTRS compliant device is in an unmanned craft (radio prototype tested in the field with Vehicular, right col., lines 11-12 of Anderson).

30.   As to claim 20, Bertrand as modified by Murotake and further modified by
Anderson teaches the system of claim 15, wherein the JTRS compliant device is a
battery powered radio (single channel JTRS wideband radio prototype, right col., line 14
of Anderson).

31.   As to claim 21, Bertrand as modified by Murotake teaches wherein no
middleware is used (paragraph [0059], lines 2-4 of Murotake).

32.   As to claim 23, this claim is rejected for the same reasons as claim 21 since
claim 23 recites the same or equivalent invention, see the rejection to claim 21 above.

33.   As to claim 24, Bertrand as modified by Murotake teaches wherein the pluggable
protocol interface is entirely implemented in hardware (paragraphs [0019], lines 7-11
and [0050], lines 1-7 of Murotake).

34.   As to claim 25, Bertrand as modified by Murotake teaches wherein the object
request broker is entirely implemented in hardware (paragraphs [0019], lines 7-11 and
[0050], lines 1-7 of Murotake).

35.   As to claim 26, this claim is rejected for the same reasons as claim 21 since
claim 26 recites the same or equivalent invention, see the rejection to claim 21 above.

27. As to claim 27, Bertrand as modified by Murotake and further modified by
Anderson teaches wherein the JTRS compliant device is in an unmanned ground
sensor (i.e. terrestrial application, page 973, right col., lines 18-21 of Anderson).

28. As to claim 28, Bertrand as modified by Murotake and further modified by Anderson
teaches wherein the JTRS compliant device is in a missile (i.e. airborne application,
page 973, right col., lines 18-21 of Anderson).

36.   As to claim 29, this claim is rejected for the same reasons as claim 9 since claim
29 recites the same or equivalent invention, see the rejection to claim 9 above.

Response to Arguments

37.   Applicant's arguments with respect to claims 1, 4-6, 8-12, 15, 19-21, and 23-29
have been considered but are moot in view of the new ground(s) of rejection.

Allowable Subject Matter

38.   The combination of claims 15 and 29 are objected to, but would be allowable if
rewritten in independent form including all of the limitations of the combination of claims
15 and 29.

Conclusion

39.   Any inquiry concerning this communication or earlier communications from the examiner should be directed to KimbleAnn Verdi whose telephone number is (571)270-1654. The examiner can normally be reached on Monday-Friday 7:30am-5:00pm EST..

40.   If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

41.   Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

November 6, 2008
KV

/Li B. Zhen/
Primary Examiner, Art Unit 2194